

MISCELLANEOUS NOTES

1. NOTES ON THE MATING BEHAVIOUR OF *TADARIDA AEGYPTIACA* (GEOFFROY)

INTRODUCTION

This paper presents an observation on mating made in the course of a study of the reproductive cycle of this species in East-Nimar. Copulation was witnessed many times at the roost and a few instances occurred in cages also.

Since little has been published on this aspect of Indian Molossid bats, this study was undertaken to collect data on mating period of *Tadarida aegyptiaca* in East-Nimar of India.

OBSERVATIONS

The species is locally scarce in East-Nimar. Three colonies were observed, one in a building and the other two in two dilapidated forts. The portion of the building where these bats roost, is being used as a class room. The forts are ancient monuments in Asirgarh and Burhanpur looked after by the State Archeological department. Over five thousand bats roosted in the three colonies from June till the second week of April the following year. They reside in crevices vertical about 8 feet in length and three inches in width. The number of bats at the three roosts decreases during the hot weather but several hundreds occur during the other seasons.

During the years 1975 to 1977 the roosts were vacated from the second week of April upto the month of May. On their return the females were examined and were not found pregnant. Ovulation occurs between the second

and third week of June. The strength of the colony increases as new arrivals appear daily. The bats are noisy and their squeaking and chattering at the roost is audible at a considerable distance.

The bats roost in a typical pattern in which they appear as if they have been arranged in orderly straight lines of ten to forty bats. In the total population of bats, hundreds were noticed copulating but observation was limited to 50% of the total population of bats at Burhanpur and Asirgarh. This investigation lasted five to ten hours a day but not at night.

In the estimated population during 1976 and 1977, the sex ratio was approximately 40% males and 60% females. Mating was noticed during day light when males and females were quite active. The majority of males collected at this time had scars on or around the muzzle region. Apparently these injuries resulted from aggressive interactions with other males and possibly females also.

The male mounted on the female in the position of coitus posteriori. The male usually grasped fur of the female's head with his teeth. However, in a few instances the neck was grasped by the male. The male's thumb was always inside the dactylopatagium brevis of the female. The male pushed his hindquarters backwards and forwards making an angle of 20° on female's body in the plane of coitus. The tail of the female including its femoral membrane was curled upwards and the male protruded penis beneath her femoral membrane. After copulating with one female, the

male often holds another female. Immediate dissection and histological studies by fixation and microscopic examination after copulation revealed that female's uterus and vaginal canal were filled with sperms.

The male does not pay any attention to the rival bats during copulation. Males were observed fighting with each other, squeaking and showing their teeth to opponents. The female was passive.

DEPARTMENT OF ZOOLOGY,
UNIVERSITY OF SAUGAR,
SAUGAR (M.P.),
INDIA,
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S. K. KASHYAP

2. FIELD OBSERVATIONS ON THE HANUMAN LANGUR

Some 20 hours of observations (mostly before noon) were made on langurs (*Presbytis entellus*) of the Mudumalai Wildlife Sanctuary (Tamilnadu) during February and March 12, 1978. The Sanctuary is situated at an altitude of 885 m on the way of Mysore-Ooty road and is 95 km from the Mysore. The forest is moist-deciduous with 'Teak', *Tectona grandis* as the dominant species.

There were five groups of the langur in an area of about 2 km². Two groups were multi-male-bisexual and three groups were unimale-bisexual type. There was no all-male group. The composition of the groups as given in Table-1 reveals that adult sex ratio was male 1:6 females; adult female to infants (new born) ratio was female 1:0.47 infants. The age-classification of the individuals followed is

TABLE 1
GROUP COMPOSITION OF THE HANUMAN LANGUR

Group	Total	Adult males	Adult females	Subadults and Juveniles	Infant-2	Infant-1
1. Mudum-B	18	1	10	2	0	5
2. Mudum-E	17	1	9	3	2	2
3. Mudum-H	21	1	8	4	4	3
4. Mudum-S	22	3	9	2	2	6
5. Mudum-L	28	2	12	4	3	7
Total	106	8	48	15	11	23
Mean	21	1.6	9.6	3	2.2	4.6
Range	17-28	1-3	8-12	2-4	0-4	2-7